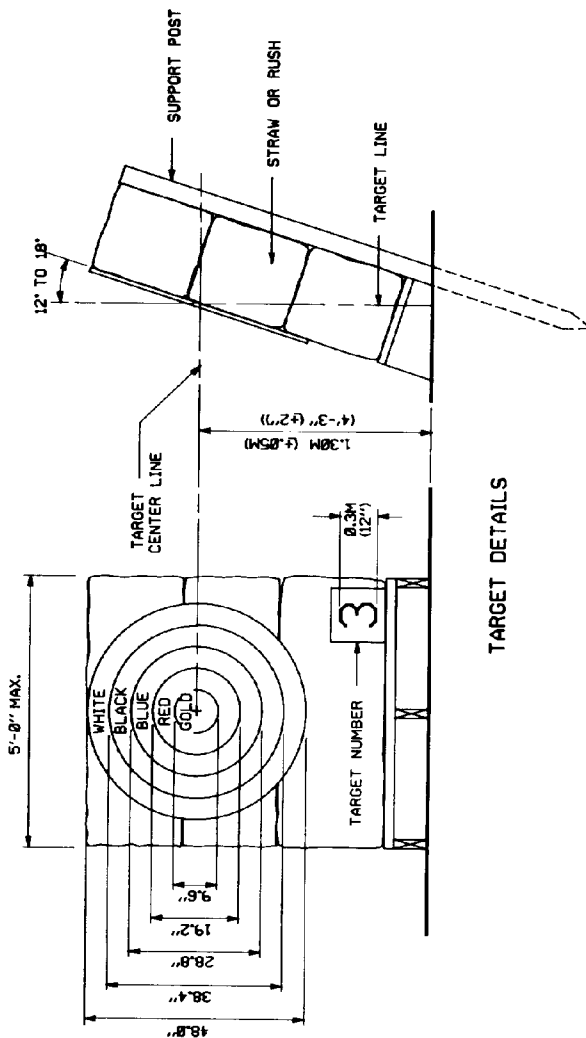


APPENDIX E

RECREATIONAL SHOOTING RANGES

E-1. Archery, target range (see fig E-1)

- a. Source of information.* National Archery Association (NAA).
- b. Recommended area.* Ground space is 1.1 acres (49,000 square feet) minimum.
- c. Size and dimension.* Shooting range is 426.51 feet long with 16.40 feet minimum between targets. Roped clear space on each side of range is 32.81 feet minimum. Roped clear space behind targets should be at least 82 feet or 41 feet with bunker.
- d. Orientation.* Range will be located so that the archer is facing north plus or minus 45 degrees.
- e. Surface and drainage.*
 - (1) Surface is to be turf and free from obstructions or hard objects.
 - (2) Drainage is to be preferably from side to side to maintain a constant, relatively level elevation between the target and the archer at the various shooting distances.
- f. Special considerations.* Range warning signs will be provided on the sides and rear to warn people of the range.



TARGET DETAILS

NAA CHAMPIONSHIP ROUNDS		DIVISION	FIRING DISTANCE	ARROWS PER DISTANCE
1990	900 METRIC COLLEGIATE	60, 50, 40 METERS	30, 30, 30	
	JUNIOR 900 (UNDER 15 YRS)	50, 40, 30 METERS	20, 20, 20	
	CADET 900 (UNDER 12 YRS)	40, 30, 20 METERS	30, 30, 30	
	EASTON (TEAMS)	60, 50, 40 METERS	30, 30, 20	

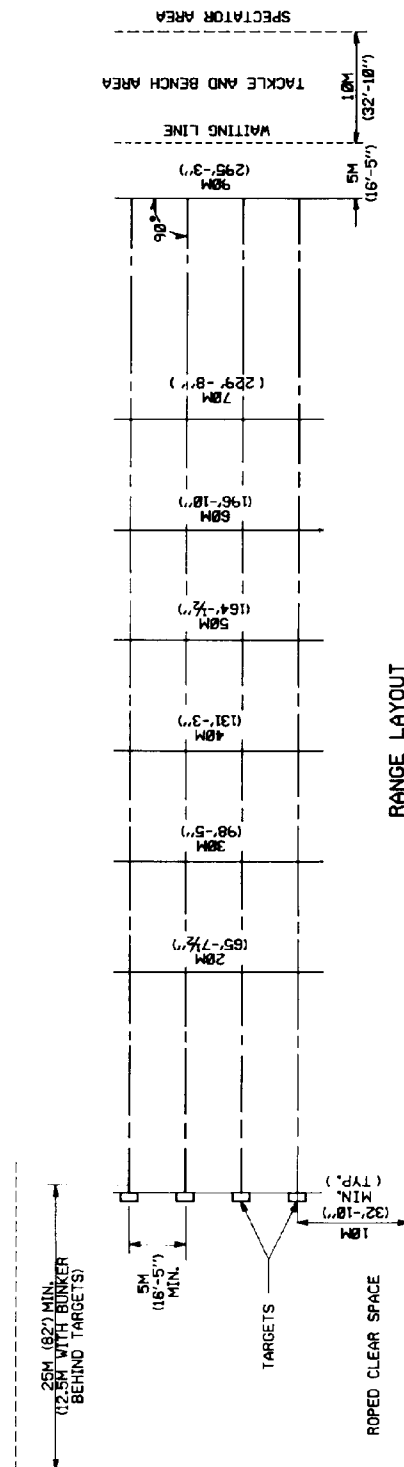


Figure E-1. Archery, target range.

NOTES:

Background behind targets to be preferably dense trees, natural or manmade hills or protective shields.

F.I.T.A. (Olympic) rounds require 80cm(31.5") target faces and a 90M range. See the official N.A.A. rulebook for details.

Targets may be mounted on a round butt of spirally sewn straw or rush supported by a portable soft wood target stand. Colors may be painted on an oilcloth cover.

E-2. International shooting union automatic trap (see fig E-2)

- a. *Source of information.* National Rifle Association (NRA).
- b. *Recommended area.* Allow 15 acres for a single field.
- c. *Size and dimension.*
 - (1) Walks and structure occupy an overall area approximately 60 feet deep by 45 feet wide.
 - (2) Shooting stations may be 36 inches to 40 inches square.
- d. *Orientation.* Preferred orientation is for the center line through station No. 3 to run northeast-southwest with the shooter facing northeast.
- e. *Surface and drainage.* Shooting stations are to be portland cement concrete (PCC). Walkways may or may not be paved. Shooting area and 75 to 82 yard radius minimum cleared area are to be turf. The 300 yard radius shotfall danger zone outside of the cleared area may be turf, water, or left in natural condition, and the entire field should be located in a relatively flat area with an open background.
- f. *Special considerations.*
 - (1) If shooting is entirely over land there should be safety provisions for fencing, posting of warning signs and clearing away of concealing brush.
 - (2) If shooting is over water, warnings posted on buoys or other signs are required and the trap house should be back far enough from the water's edge to permit recovery of unbroken targets.
 - (3) Range safety will be in accordance with installation safety requirements and outdoor range safety manuals.
 - (4) Contact the National Rifle Association for information on trap house construction and trap machines.

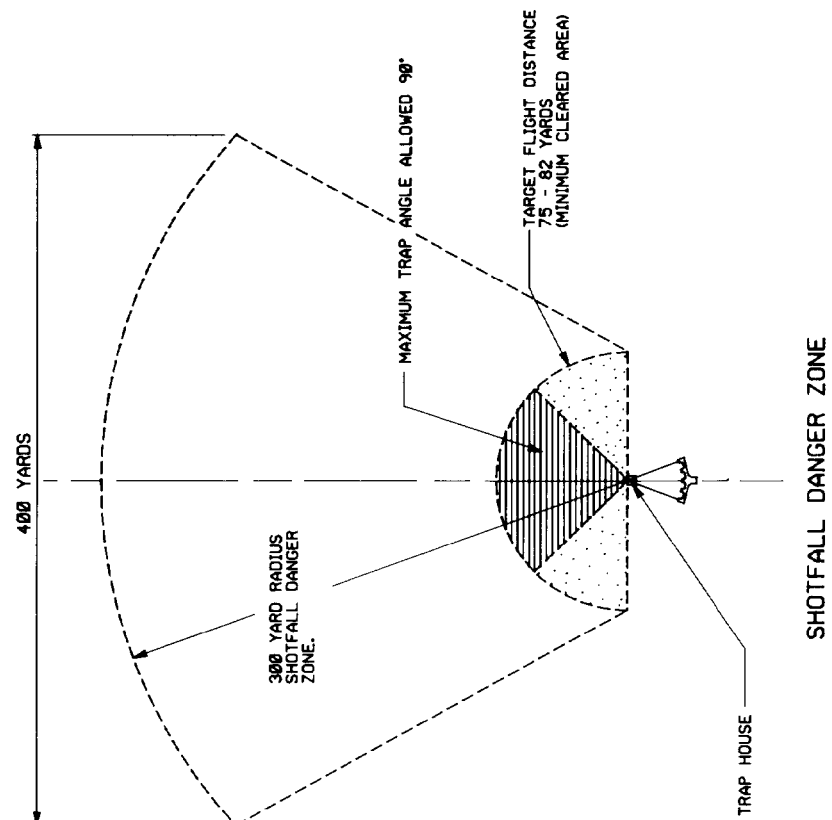
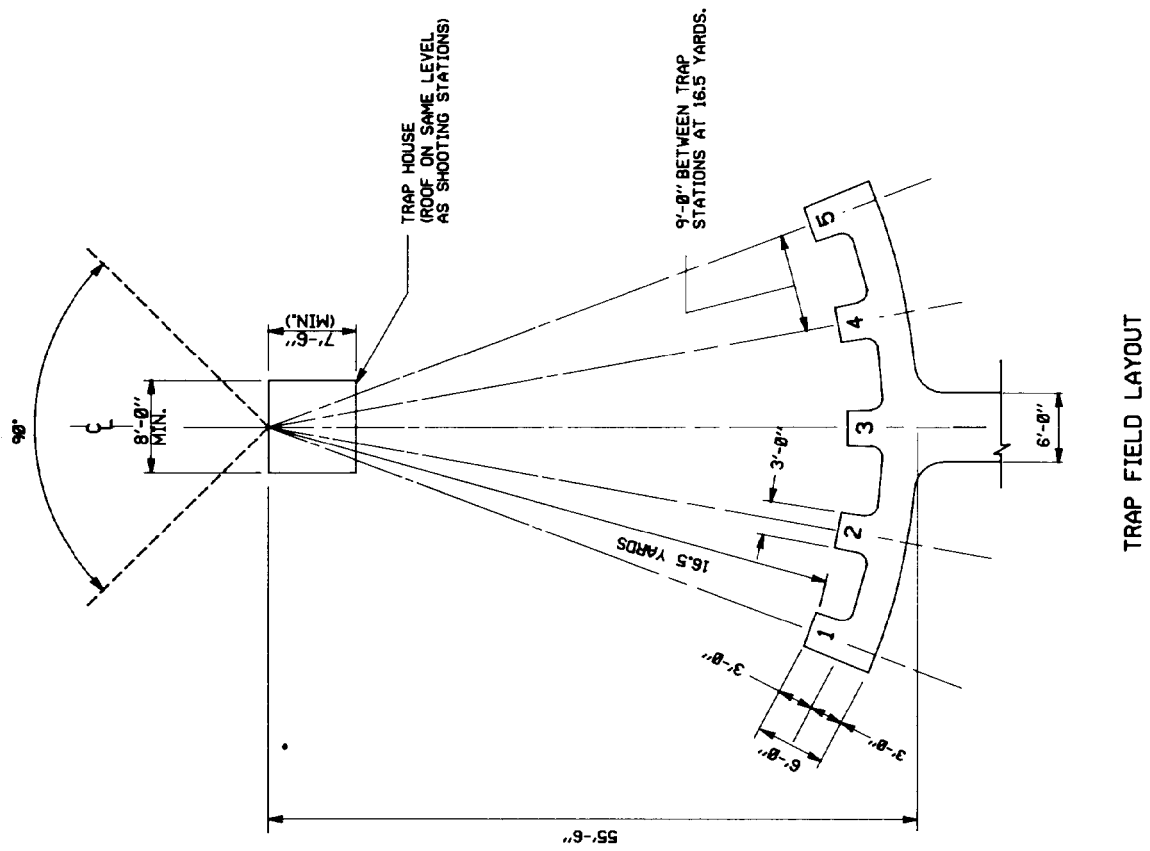


Figure E-2. International shooting union automatic trap.

E-3. Skeet field (see fig E-3)

- a. *Source of information.* National Skeet Shooting Association (NSSA), 1974.
- b. *Recommended area.* Allow 29 acres for a single field. Shotfall danger zones of adjacent fields partially overlap and require only 2 acres additional land.
- c. *Size and dimension.* Walks and structures occupy an area approximately 130 feet wide by 80 feet deep. Minimum cleared area is semi-circle with a radius of 100 yards (3.25 acres). Shotfall danger zone is a semi-circle with a radius of 300 yards (29 acres).
- d. *Orientation.* Preferred orientation is for the center line from station No. 4 through station No. 8 to run northeast-southwest with the shooter facing northeast.
- e. *Surface and drainage.* Shooting stations are to be portland cement concrete (PCC). Walkways may or may not be paved. Shooting area and 100-yard radius minimum cleared area are to be turf. The 300-yard radius shotfall danger zone may be turf, water, or left in natural condition, and the entire field should be located in a relatively flat area with an open background.
- f. *Special considerations.*
 - (1) If shooting is entirely over land, there should be safety provisions for fencing, posting of warning signs and clearing away of concealing brush.
 - (2) If shooting is over water, warnings posted on buoys or other signs are required, and skeet houses should be back far enough from the water's edge to permit recovery of unbroken targets.
 - (3) Range safety will be in accordance with installation safety requirements and outdoor range safety manuals.
 - (4) Contact the National Rifle Association for information on skeet house construction and trap machines.

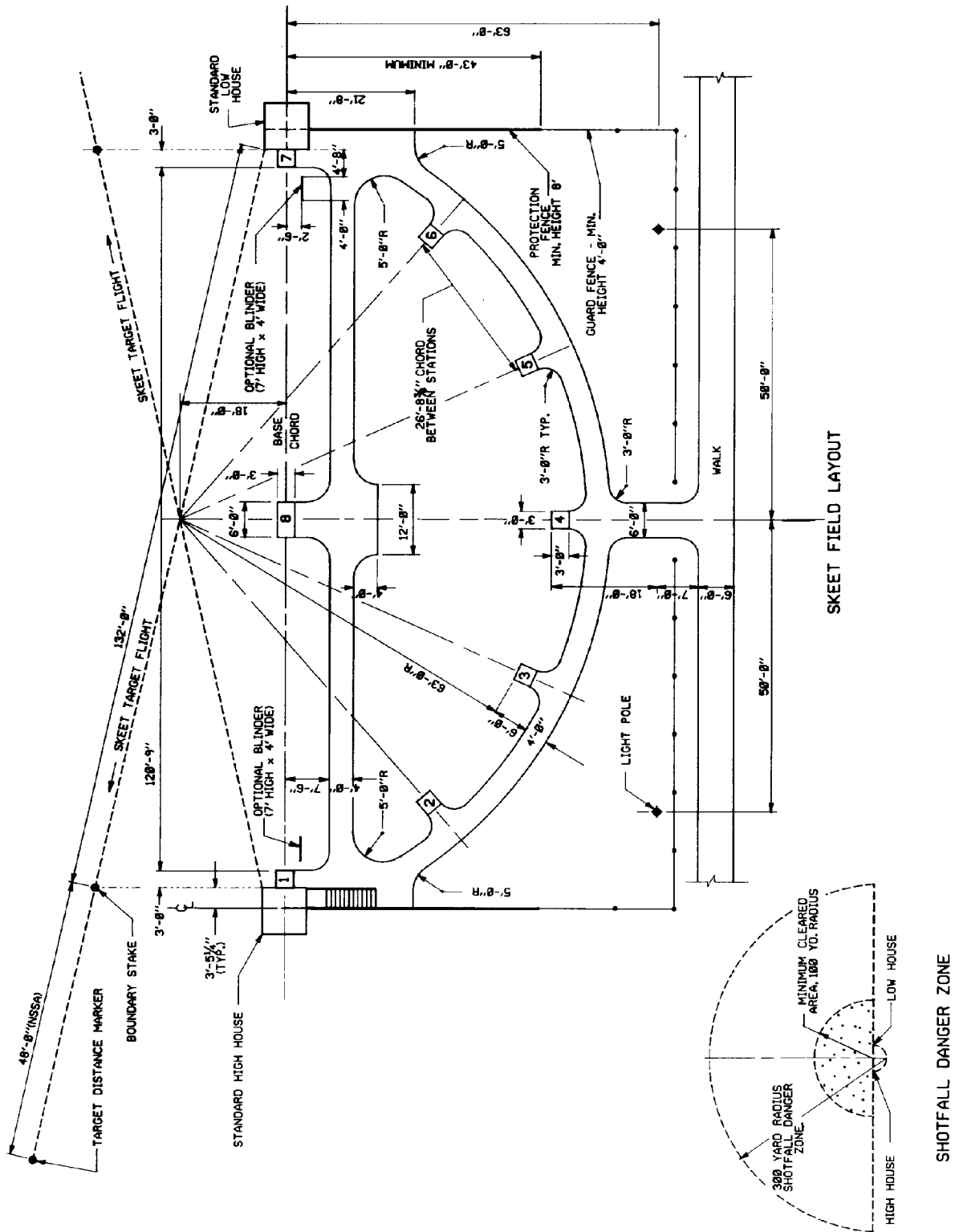


Figure E-3. Skeet field.

SHOTFALL DANGER ZONE

E-4. Trap field (see fig E-4)

- a. Source of information.* Amateur Trapshooting Association (ATA).
- b. Recommended area.* Allow 18 acres for a single field. Shotfall danger zones of adjacent trap fields may overlap.
- c. Size and dimension.* Walks and structures occupy an overall area approximately 100 feet deep by 65 feet wide. Minimum cleared area is a section with a radius of 100 yards (3.0 acres). Shotfall danger zone is a section with a radius of 300 yards (14.8 acres).
- d. Orientation.* Preferred orientation is for the center line through shooting station No. 3 to run northeast-southwest with the shooter facing northeast.
- e. Surface and drainage.* Shooting stations are to be portland cement concrete (PCC). Walkways may or may not be paved. Shooting area and 100-yard radius minimum cleared areas are to be turf. The 300-yard radius shotfall danger zone may be turf, water or left in natural condition, and the entire field should be located in a relatively flat area with an open background.
- f. Special considerations.*
 - (1) If shooting is entirely over land there should be safety provisions for fencing, posting of warning signs and clearing away of concealing brush.
 - (2) If shooting is over water, warnings posted on buoys or other signs are required, and the trap house should be back far enough from the water's edge to permit recovery of unbroken targets.
 - (3) Range safety will be in accordance with installation safety requirements and outdoor range safety manuals.
 - (4) Contact the National Rifle Association for information on trap house construction and trap machines.

NOTES:

Top of trap house shall be 2'-2" to 2'-10" above the level of No. 3 shooting station.

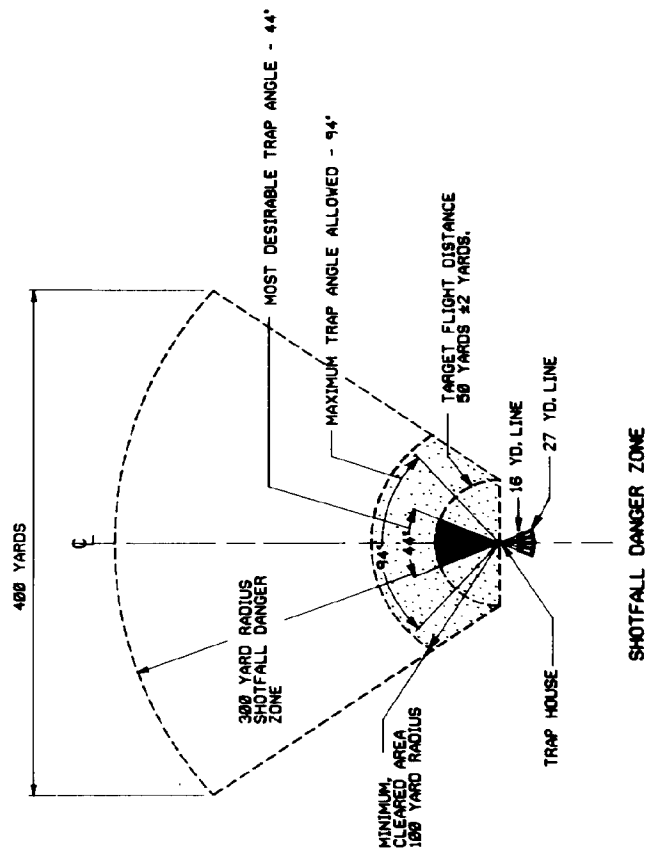
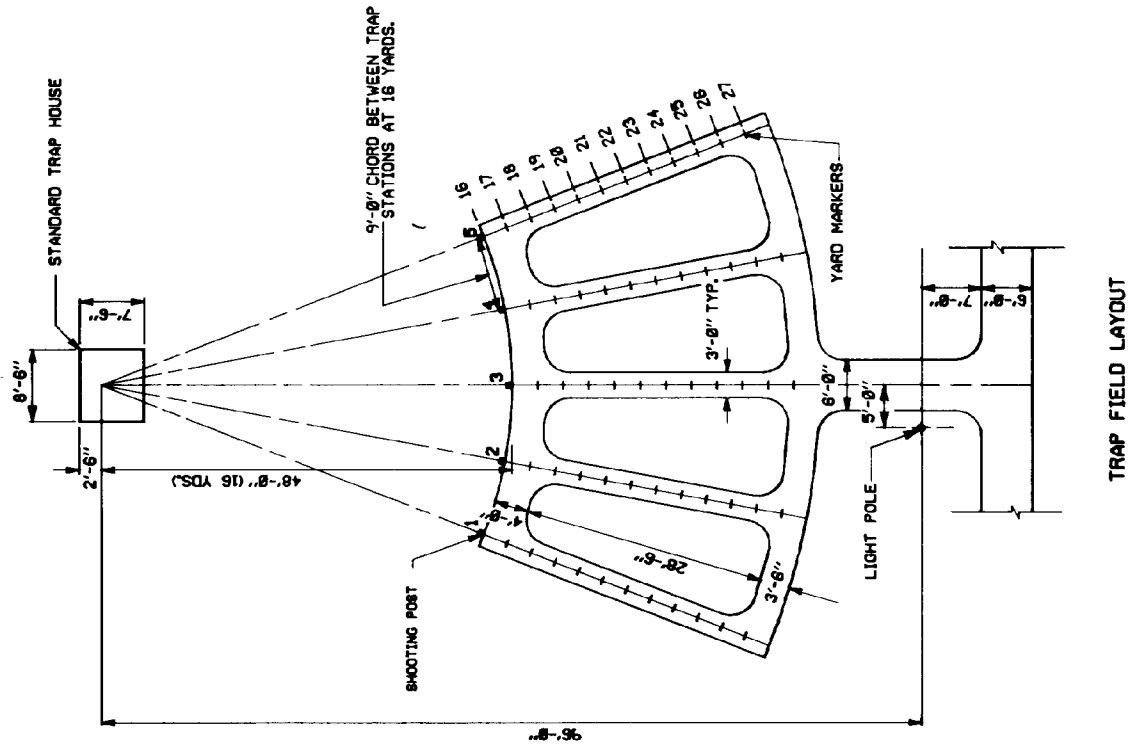


Figure E-4. Trap field.



TRAP FIELD LAYOUT

E-5. Combination skeet and trap field (see fig E-5)

a. *Source of information.* Skeet: National Skeet Shooting Association (NSSA). Trap: Amateur Trapshooting Association (ATA).

b. *Recommended area.* Allow 30 acres for a combination field.

c. *Size and dimension.* All walks and structures occur within an area approximately 130 feet wide by 115 feet deep. Minimum cleared area is contained within two superimposed segments with a 100-yard radii (4 acres). Shotfall danger zone is contained within two superimposed segments with 300-yard radii (36 acres).

d. *Orientation.* Preferred orientation is for the center line from skeet station No. 4 through trap station No. 3 to skeet station No. 8 to run northeast-southwest with the shooter facing northeast.

e. *Surface and drainage.* Shooting stations are to be portland cement concrete (PCC). Walkways may or may not be paved. Shooting area and minimum cleared area are to be turf. Shotfall danger zone may be turf, water, or left in natural condition, and the entire field should be located in a relatively flat area with an open background.

f. *Special considerations.*

(1) If shooting is entirely over land there should be safety provisions for fencing, posting of warning signs and clearing away of concealing brush.

(2) If shooting is over water, warnings posted on buoys or other signs are required, and the trap house should be back far enough from the water's edge to permit recovery of unbroken targets.

(3) Range safety will be in accordance with installation safety requirements and outdoor range safety manuals.

(4) Contact the National Rifle Association for information on skeet and trap house construction and trap machines.

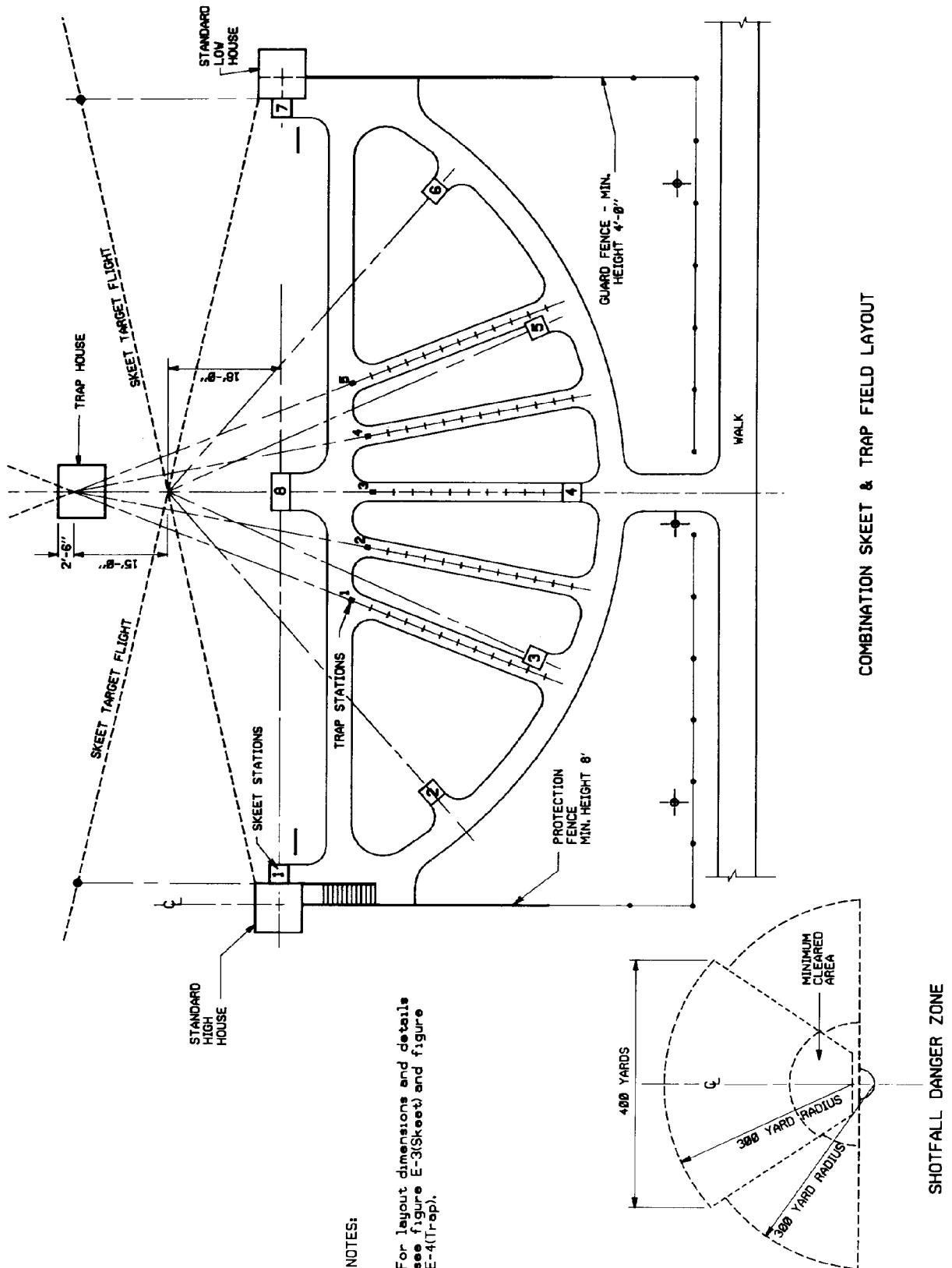


Figure E-5. Combination skeet and trap field.